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Final

Meeting Minutes Transmittal/Approval  
Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units  
2440 Stevens Center, Room 1200, Richland, Washington  
January 19, 1995

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FROM/APPROVAL: *Nancy Werdel* Date *Feb 16, 1995*  
Nancy Werdel, 100 Area Unit Manager, RL (H4-83)

APPROVAL: *Phil Staats* Date *Feb 16 95*  
Phil Staats, 100 Aggregate Area Unit Manager, WA Department of Ecology

APPROVAL: *Dennis Faulk* Date *2-16-95*  
Dennis Faulk, 100 Aggregate Area Unit Manager, EPA (B5-01)

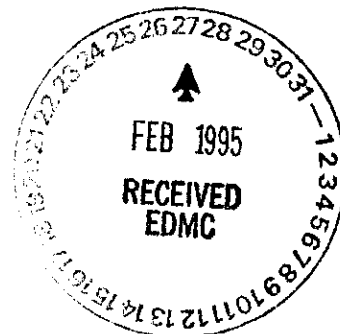
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Meeting Minutes are attached. Minutes are comprised of the following:

- |                |   |  |
|----------------|---|--|
| Attachment #1  | - | Meeting Summary  |
| Attachment #2  | - | Attendance Record                                      |
| Attachment #3  | - | Agenda   |
| Attachment #4  | - | Action Item Status List                                |
| Attachment #5  | - | Effluent Pipeline ERA                                  |
| Attachment #6  | - | January Unit Manager's Meeting 100 Area Status Package |
| Attachment #7  | - | 100 NPL Agreement Control Forms 74 and 75              |
| Attachment #8  | - | 100-FR-3 Soil Gas Survey                               |
| Attachment #9  | - | 107-D/DR Retention Basins                              |
| Attachment #10 | - | 100 Area Sensitivity Analysis                          |
- 

Prepared by: *Kay Kimmel* Date: *2/16/95*  
Amoret Bunn, Kay Kimmel, GSSC (B1-42)

Concurrence by: *Greg Eidam* Date: *2/16/95*  
Greg Eidam, BHI 100 Area Manager (H4-91)



Attachment #1  
Meeting and Summary of Commitments and Agreements

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units  
January 19, 1995

1. SIGNING OF THE OUTSTANDING 100 AREA UNIT MANAGER'S MEETING MINUTES - The minutes for November were provided for signature. ~~All parties signed except for EPA rep (Dennis Faulk).~~ *JA* *in*

2. ACTION ITEM UPDATE: (See Attachment 4 for complete status, items listed below indicate the update to Action Items made during the meeting):

1AAMS.21 Still being pursued

3. NEW ACTION ITEMS:

None

4. River Outfall Pipelines ERA:

Rex Miller discussed the "Statement of Work to Characterize 100 Area River Effluent Pipelines" draft document. The schedule for the Effluent Pipeline ERA was provided (see attachment #5). Mike Thompson proposed to schedule a meeting with the regulators to read and discuss comments. The meeting TBD.

5. 100 AREA ACTIVITIES:

100 Area Status

- Operable Unit Status: Alan Krug provided the status packages (see Attachment #6) for general information on the 100 Areas Operable Units. He also provided copies of the 100 NPL Agreement/Change Control Forms 74 and 75 (see Attachment #7).
  - 100 Area: Nancy Werdel assured the regulators that DOE intends to meet the milestones previously agreed to. She requested input from the regulators indicating how to group the OUs in the next set of Records Of Decision (ROD), and strategy for the ROD.

6. INFORMATION ITEMS:

- 100 Area Soil Washing - John April discussed completion and closing down the project. The next phase is to document the activities and results in a report.
- 100-HR-3 Pilot Plant Tests - John April discussed the accident that occurred in December due to a frozen line where two people were injured. A Level C investigation of safety analysis report has been drafted to be submitted to RL. An Engineering team was set-up to evaluate the operating system and make recommendations for modification if needed to restart the system.

The target date for restart is February 13, 1995.

- 118-B-1 Excavation: John April discussed current activities; Pit #4 is closed and Pit #5 is scheduled to start on January 19, 1995, to be completed by February 9, 1995.
- 100-FR-3 Soil Gas Survey: Duane Jacques presented the preliminary results for the TCE investigation (see Attachment #8). The data indicate that a contaminant plume exists below a partially calcified layer ("Caliche layer"). Currently studying approaches for continuing the investigation. Mike Thompson suggested meeting with the regulators to discuss the proposal for conducting the contaminant plume delineation. The meeting TBD.
- D Area 107 D/DR Retention Basin: Bill Hayward discussed the plans for the retention basin where 12 inches of clean fill will be placed over the surface contaminated area (see Attachment #9).
- Data Validation: Data validation was discussed in regard to minimizing costs. Joan Woolard noted that although the full data package will be available for validation, not all data will be validated. Suzanne Clarke provided a reminder that the radiochemical data validation method is still inadequate for Hanford needs.
- 100 Area Focused Feasibility Studies and Proposed Plans: A sensitivity analysis comparing potential risk scenarios and cost was provided for discussion (see Attachment #10).

7. NEXT MEETINGS: The next meetings are scheduled for:

February 16, 1995  
March 16, 1995  
April 19, 1995  
May 18, 1995

June 22, 1995  
July 20, 1995  
August 23, 1995  
September 21, 1995

100 Aggregate Area Unit Manager's Meeting  
Official Attendance Record  
January 19, 1995

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PRINTED NAME	ORGANIZATION	O.U. ROLE	MSIN	TELEPHONE
Larry Gadbois	EPA	UM	B5-01	376-9884
Diana Siethe	BHI	Support	H4-79	(509)375-9422
Michael Thompson	DOE	um 100 GW	H4-38	509 373-0750
Tracy Wootley	Ecology	UM		<del>736-3012</del>
	Ecology	um		736-3029
Wayne Saper	Ecology	UM		736-3047
Nancy Weedel	DOE	UM	H4- <del>83</del> ?	376-5500
John April	CHI	Task Lead		372-9590
Nicole Kimball	DOE	100 Area Treat. Studies	H4- <del>83</del>	376-4670
Greg Eiden	ERC	PM 100 Area		375-4650
Tony McKerns	DOE	OVERSIGHT	A5-52	376-8981
Dina Murphy	DOE	EM/TPA	A5-15	575-1851
Dennis Faulk	EPA	umum	B5-01	376-8631
JOAN WOOLARD	BHI	100-JR		372-9449
PAUL VALCICH	BHI	RIVER PIPE LNA	H4-90	372 9405
JOHN RAYNER	BHI	PC.	H4-79	372-9410
Dan Tyler	CHI	100 GW OWS / FR-3 TCE	H4-89	372-9651
SCOTT THOREN	BHI	100 D&D	X5-53	373-4033
STEPHEN HAMBLIN	BHI	100 PR. FIBO D&D	X0-17	372-0491
A. PAIGE WYATT	ERC	100 D&D	X5-53	373-3304
Glenn VanSickle	BHI	N/A	H6-05	372-3370
Suzanne E. Clarke	PAI	Support to DOE (OVERSIGHT)	Soon to Change	373-6165
BOB SCHNECK	Dames + Moore	GSSC	B1-42	946-3688
Chuck Hedel	CHI	H Task Leader	H4-89	372-9637
Steve Hope	CH2M Hill	100-HR-3 Proj. Mgr. of Dive/BCE Water	H4-92	372-9578
Amoret Buin	Dames + Moore	Study GSSC	B1-42	946-3695

Attachment #3  
Agenda

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units  
January 19, 1995

100 Area General Discussions

1:30 - 4:00, 100 Area

1:30 - 2:00, 100-DR - J. Woolard

- \* Action Item Status
- \* Update

2:00 - 2:15, 100-BC - G. Eidam

- \* Action Item Status
- \* Update

2:15 - 2:30, 100-KR - G. Eidam

- \* Action Item Status
- \* Update

2:30 - 2:45, 100-FR - A. Krug

- \* Action Item Status
- \* Update

2:45 - 3:00, 100-HR - D. Biggerstaff

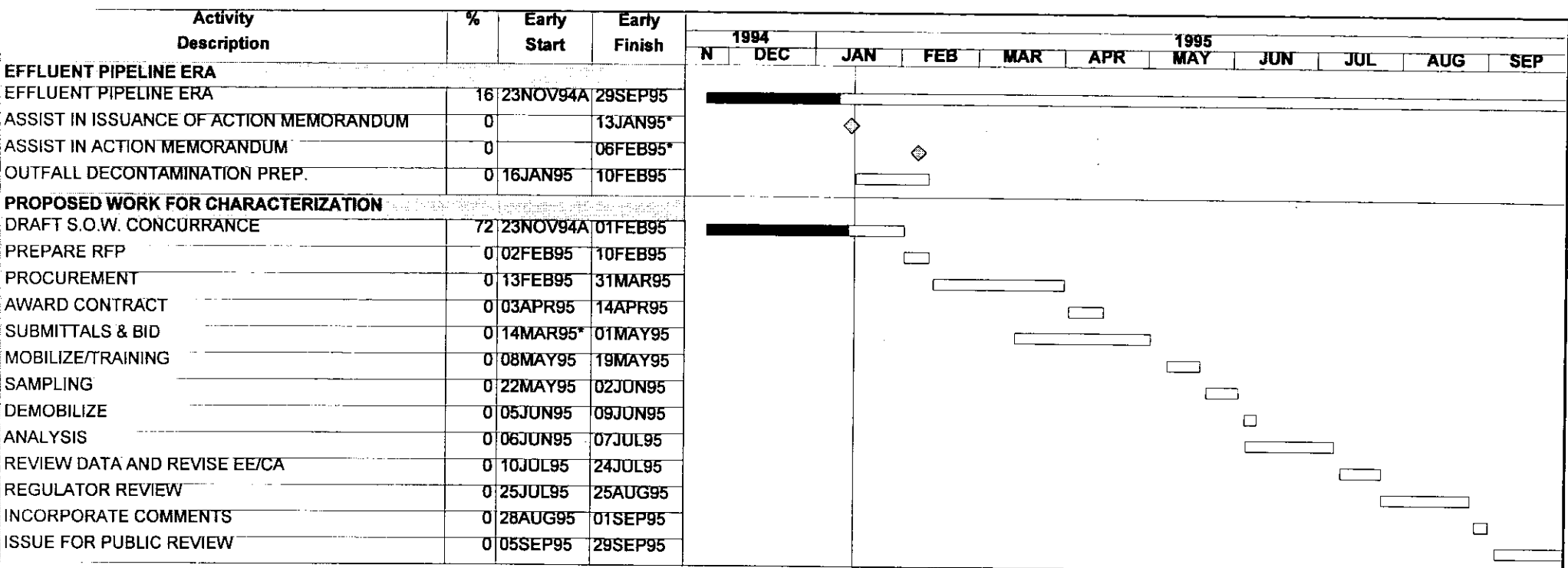
- \* Action Item Status
- \* Update

## Attachment #4

**Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units  
January 19, 1995**

## Action Item Status List

ITEM NO.	ACTION	STATUS
1AAMS.15	Provide response to April 2 EPA letter concerning river seeps. Action: Mike Thompson (RL) 07/27/94.	Closed.
1AAMS.21	Provide Ecology (Dave Holland, H Area manager) a copy of Revision 0 for 100-HR-1 LFI. Action: Dick Biggerstaff	Open 11/17/94.



Attachment #5

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**DRAFT**

Project Start	01OCT94		Early Bar
Project Finish	29SEP95		Target Bars
Data Date	15JAN95		Progress Bar
Plot Date	18JAN95		Critical Activity

100P:REPP

N	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1994		1995								

Sheet 1A of 18

ERC Team  
D&D Projects  
River Effluent Pipeline ERA

Date	Revision	Checked	Approved

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Attachment #6

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100-B, K, D, F, H

Unit Manager's Status Package

December, 1994

January, 1995



## Treatability Studies - November

## 118-B-1 Excavation Treatability Study

During November the first test pit was stabilized with approximately 2500 cubic yards of overburden material and completed on November 14. Excavation for the second test pit was initiated on November 15 with 230 cubic yards of material excavated by the end of this reporting period. Waste materials encountered in pit 2 to this date consist mainly of lead sheeting, steel material such as piping, rebar and cable. Mock ups were performed using soft and hard waste materials. The rotating screen worked well with soft material, however, it jammed during mock up of hard waste materials. Screening was conducted on materials excavated at pit 2 which of steel pipe and contaminated soil. No sealed containers have been encountered during this reporting period. Modifications of the sorting table was completed and consisted of incorporation of a platform for operators to stand on and other miscellaneous enhancements to support project. which will enhance operator efficiency and safety. The disc screen was tested with clean soil and waste. Rocks jammed the screen and were ejected from the front of the unit. This unit will not be used on radioactive waste forms due to safety concerns with jamming and ejection of material during operation.

## HR-3 Pump &amp; Treat

Phase I operations and construction activities were completed by November 14. On this date Phase II operations were initiated (one day ahead of planned Phase II operation). During the month of November a total of 250,000 gallons of groundwater was extracted, treated and injected with 2.3 kilograms of chromium removed from the groundwater.

## 100 Area Soil Washing

During this reporting period construction of soil washing system was completed on November 14. A readiness review was held and completed on this date to initiate shakedown testing for the system. This testing consisted of electrical, mechanical and charging the system with clean water. Clean soils will be introduced to the system during the first week in December.

## Soil Washing Laboratory Test

All benchscale work for washwater recycling and dust suppressant test has been completed. A draft report was received November 30 for review and comment.

D AREA

## 100-DR-1

- The 100-DR-2 FFS and IRM PP are with the regulatory agencies for review.

## 100-DR-2

- All regulator comments on the 100-DR-2 Work Plan have been resolved and incorporated. The work plan has been transmitted to RL for submittal to Ecology. The work plan is schedule for public review and issuance by January 31, 1994 (target milestone).
- The 100-DR-2 LFI is being routed through RL for concurrence prior to official transmittal to the Regulatory agencies for review. The document will undergo concurrent RL and Regulator review. Comments are anticipated in mid-December. The LFI report will be appended to the 100-DR-2 work plan after the work plan has been reviewed by the public. There is a target milestone of January 31, 1994 for incorporation of the LFI into the work plan.

- The 100-KR-1 Focused Feasibility Study was delivered to DOE on November 17, 1994, partially fulfilling the requirements of Milestone M-15-10C.
  
- 100-KR-2 Planning - A meeting was held with DOE-RL, EPA and Ecology on November 3, 1994 to discuss ways to streamline the RI/FS process for the 100-KR-2 Operable Unit. EPA proposed that a short fact sheet describing the process to be used for the 100-KR-2 Operable Unit be sent out to the public in January. A second focus document (perhaps 16 pages) which described the 100-KR-2 waste sites and their proposed dispositions would be available for public review and described in the fact sheet. This would satisfy the need to inform the public of plans for 100-KR-2 and would meet the requirements of the newly established Milestone M-13-00I, to submit planning documentation necessary to complete the RI/FS Process for 100-KR-2 by 12/31/95. Relevant material from the LFI and QRA would be added to the Focused Feasibility Study eliminating the need to prepare these as separate documents.

The 100-KR-2 Working Group met on November 30, 1994 and signed NPL Agreement/Control Forms # 74 and # 75. These addressed the preliminary designation of waste sites in 100-KR-2 and the planning documentation identified in Milestone M-13-00I. Outlines for the fact sheet, the focus package and modified Focused Feasibility Study were discussed and agreed to.
  
- 100-KR-1 IRM Proposed Plan - Work on the PP has been halted, pending ongoing discussions with DOE and the Regulators. This work stoppage will delay submittal of this PP from December, 1994 to a yet unspecified date. The PP was on an accelerated schedule which would have met the milestone 4 months early.

## F AREA

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- 100-FR-1 IRM Proposed Plan - Work on the PP has been halted, pending ongoing discussions with DOE and the Regulators. This work stoppage will delay submittal of this PP which was on an accelerated schedule which would have met the milestone 2 1/2 months early.
- 100-FR-1 FFS - The FFS is currently in ERC review. When ERC comments are received, dispositions will be prepared, but not incorporated. Further work on the FFS will stop, pending ongoing discussions with DOE and the Regulators. This work stoppage will delay the submittal of the FFS which was on an accelerated schedule which would have met the milestone 2 1/2 months early.
- 100-FR-1 LFI/QRA - Regulator comments on the 100-FR-1 LFI/QRA are one month past due. Work is on hold, pending receipt of comments.

## 100-BC-5

- The 100-BC-5 Focused Feasibility Study (FFS) and the Proposed Plan (PP) are currently in regulatory review.

## 100-FR-3

- DOE/RL review comments were received on the 100-FR-3 Focused Feasibility Study and the Proposed Plan documents. The comments will be dispositioned and placed in the file pending completion of field characterization efforts related to TCE.

## 100-HR-3

- A Statement of Work for Salmon redd water sampling has been completed and internally reviewed by BHI. Discussions with Ecology, EPA, DOE/RL, and PNL have been held to expedite and clarify the proposed work, with field sampling planned for January, 1995.
- Data validation has been completed for the round 7 sampling event, and the DOE\RL transmittal package is being prepared.
- The Focused Feasibility Study and the Proposed Plan are still in regulatory review. This review was delayed to give priority to the 100-HR-1, DR-1, and BC-1 FFS and PP reviews.
- Preparations are underway for Round 8 groundwater sampling in mid-December..

**TREATABILITY STUDIES - December****100 DR-1 Soil Washing Treatability Test**

During the December performance period, shakedown testing for soil washing continued. On December 9, testing began on clean soils to determine performance of each component of the soil washing system prior to running contaminated soils. Adjustments to the radiation detectors, conveyor belt scales, rotary drum motor change out, mechanical and electrical components were accomplished to correct and enhance system performance. Anticipated contaminated soils test is scheduled for mid January 1995.

**100 HR-3 Pump and Treat Treatability Test**

During this reporting period, operations at the HR-3 Pump and Treat system was halted by frozen piping. During a work evolution to determine extent of pipe freezing, an accident occurred in which two pipefitters were injured. During the ongoing Level C Safety Investigation, the system has not been operated. A Start-Up Engineering Team was assembled on December 13th to evaluate the existing condition of system and provide recommendations on improving system performance in regard to mechanical operation and operating under winter conditions. A schedule will be forthcoming the first week in January for system improvements for HR-3 Pump and Treat and will present start up date for the system. The Start-Up Team efforts is being performed in conjunction with the Level C Safety Investigation. As of this date, the system has pumped, treated, and injected 250,000 gallons of groundwater, and has removed 2.3 kilograms Chromium.

**118-B-1 Excavation Treatability Study**

Excavation of the second pit was completed on December 9th. A total of 440 cubic yards of material was excavated from this pit. Excavated material consisted mainly of soil and rock (approx. 90%) and the rest being steel cable, rebar, pipe, etc... One piece of highly contaminated steel material was excavated from pit 2. This piece read 2,000 mrem/hr. Gamma spectrum analysis indicated cesium-137 isotope of concern. Since a significant amount of material excavated was soil, it was agreed to by DOE and the Regulators that this pit could be closed.

On December 21 overburden (approx. 2400 cubic yards) stabilization layer was removed for pit 3. During excavation of overburden, a large object was uncovered at the bottom of the this layer. It appeared to consist of a filter housing for a ventilation system. This object was reading 300,000 disintegrations per minute. Closure of pit 3 is anticipated by mid January 1995.

Source Operable Units - December

BC Area

The 100-BC-1 Focused Feasibility Study (FFS) and Interim Remedial Action (IRM) Proposed Plan were submitted to EPA/Ecology for review on November 18, 1994, in support of TPA Milestone M-15-08D (November 30, 1994). Working group meetings were initiated in early December to address regulatory comments. The process was used rather than the standard formal comment and disposition process.

The 100-BC-2 FFS activities for the month of December include waste site descriptions and definition of contaminant concentration. Volume estimates, alternative assessment, and cost estimates will be completed for all burial grounds. The remaining sites have been placed on hold pending comments and decisions made on the 100-BC-1 FFS, Process Document, and Sensitivity Analysis.

The 100-BC-5 FFS and IRM Proposed Plan were submitted to EPA/Ecology on October 27, 1994 in support of TPA Milestones M-15-09C and M-15-09D. These groundwater documents have been placed on hold giving high priority to the source operable unit documents.

100-BC-1 Remedial Design Activities have been initiated and include the following tasks: development of a remedial design/remedial action strategy, definition of remediation goals (includes process definition and implementation), define a process in which to prioritize waste sites, and support to the flexible ROD. Specific design activities will be initiated upon agreement on the above RD/RA strategy.

D AREA

100-DR-1

- Meetings were held with the regulatory agencies to resolve comments and redline the FFS. The document is scheduled to be finalized and issued to the regulatory agencies in February 1995 along with the Process Document, Sensitivity Analysis, 100-HR-1 FFS, and 100-BC-1 FFS. The IRM PP is still undergoing regulatory review.

100-DR-2

- RL formally transmitted the LFI and work plan to the regulatory agencies. The work plan is to be submitted for public review and the LFI is to undergo concurrent RL and regulatory review. A TPA target date of January 31, 1995 has been set submittal of the work plan to the regulatory agencies after public review and including an addendum with the substantive portion of both the LFI and QRA reports. Due to the time required for public review, the January 31, 1995 target date is in jeopardy.

## 100-D Ponds

- The DQOs and Description of Work (DOW) for sampling of the 100-D Ponds has been approved and issued. Sampling is scheduled to take place in January 1995, weather permitting.

## H AREA

## 100 HR-1

- FFS REPORT and the IRM Proposed Plan: Comment resolution meetings were held in December for both the 100 HR-1 Operable Unit Focused Feasibility Study Report, DOE/RL-94-63, Draft A, and the Proposed Plan for Interim Remedial Measures at the 100-HR-1 Operable Unit, DOE/RL-94-101, Draft A. The focused feasibility study report is being revised according to comments and will be incorporated with the Process Document as an appendix. The Proposed Plan is a working document and is being revised according to comments. Both the focused feasibility study report and the proposed plan are being used to create templates for use with like documents for other 100 Area operable units.

## 100 HR-2

- LFI/QRA REPORTS: The 100-HR-2 LFI/QRA Report (single document), DOE/RL-94-53, Draft A, is in regulatory review. Comments are expected on January 19, 1995.
- FOCUSED FEASIBILITY REPORT: The 100-HR-2 FFS Report, DOE/RL-94-65, Draft A, will be submitted to DOE for transmittal to the regulators to meet Milestone M-15-18B. After the format and content of 100 Area focused feasibility study reports have been agreed to, the 100-HR-2 report will be modified to conform with the agreed upon presentation.
- IRM PROPOSED PLAN: The 100-HR-2 Proposed Plan, DOE/RL-94-135, Draft A, will be submitted to DOE for transmittal to the regulators to meet Milestone M-15-18C. After the format and content of 100 Area proposed plans have been agreed to, the 100-HR-2 report will be modified to conform with the agreed upon presentation.

## K AREA

- The 100-KR-1 Focused Feasibility Study was delivered to DOE on November 17, 1994, partially fulfilling the requirements of Milestone M-15-10C. Further work on this FFS has been halted, pending resolution of the 100-HR-1 FFS. If all issues relating to the FFS are not resolved by January



31, 1995, the ability to deliver the 100-KR-1 FFS by the April milestone date is in jeopardy.

- 100-KR-2 Planning - The 100-KR-2 Focus Package is undergoing concurrent ERC, DOE and Regulator review. A comment incorporation meeting is scheduled for January 5, 1995. The availability of the Focus Package for public review will be announced in the January Hanford Update.
- 100-KR-1 IRM Proposed Plan - Work on the PP has been halted, pending ongoing discussions with DOE and the Regulators. This work stoppage will delay submittal of this PP from December, 1994 to a yet unspecified date. The PP was on an accelerated schedule which would have met the milestone 4 months early.

#### F AREA

- 100-FR-1 IRM Proposed Plan - Work on the PP has been halted, pending ongoing discussions with DOE and the Regulators. This work stoppage will delay submittal of this PP which was on an accelerated schedule which would have met the milestone 2 1/2 months early.
- 100-FR-1 FFS - The FFS has undergone ERC review and dispositions prepared, but not incorporated. Further work on the FFS has stopped, pending ongoing discussions with DOE and the Regulators. This work stoppage will delay the submittal of the FFS which was on an accelerated schedule which would have met the milestone 2 1/2 months early.
- 100-FR-1 LFI/QRA - Regulator comments on the 100-FR-1 LFI/QRA are two months past due. Work is on hold, pending receipt of comments.
- 100-FR-2 Work Plan - An ERC site walkover for the 100-FR-2 Operable Unit was conducted on December 28, 1994.

#### Groundwater

100-BC-5, 100-FR-3, 100-HR-3, AND 100-KR-4  
DECEMBER 1994

#### 100-BC-5

The Focused Feasibility Study and the IRM Proposed Plan are on hold per the DOE and regulator request to enable these entities to focus on the source area FFSs and Proposed Plans. Regulatory comments are expected in late January or early February.

#### 100-HR-3

The Focused Feasibility Study and the IRM Proposed Plan are on hold per the DOE and regulator request to enable these entities to focus on the source area FFSs and Proposed Plans. Regulatory comments are expected in late January or early February.

The Round 7 groundwater data validation report was submitted to the DOE for transmittal to the regulators in December.

Round 8 groundwater sampling at the H reactor is complete; sampling activities at D reactor area (to coordinate with RCRA sampling) are in progress.

100-KR-4

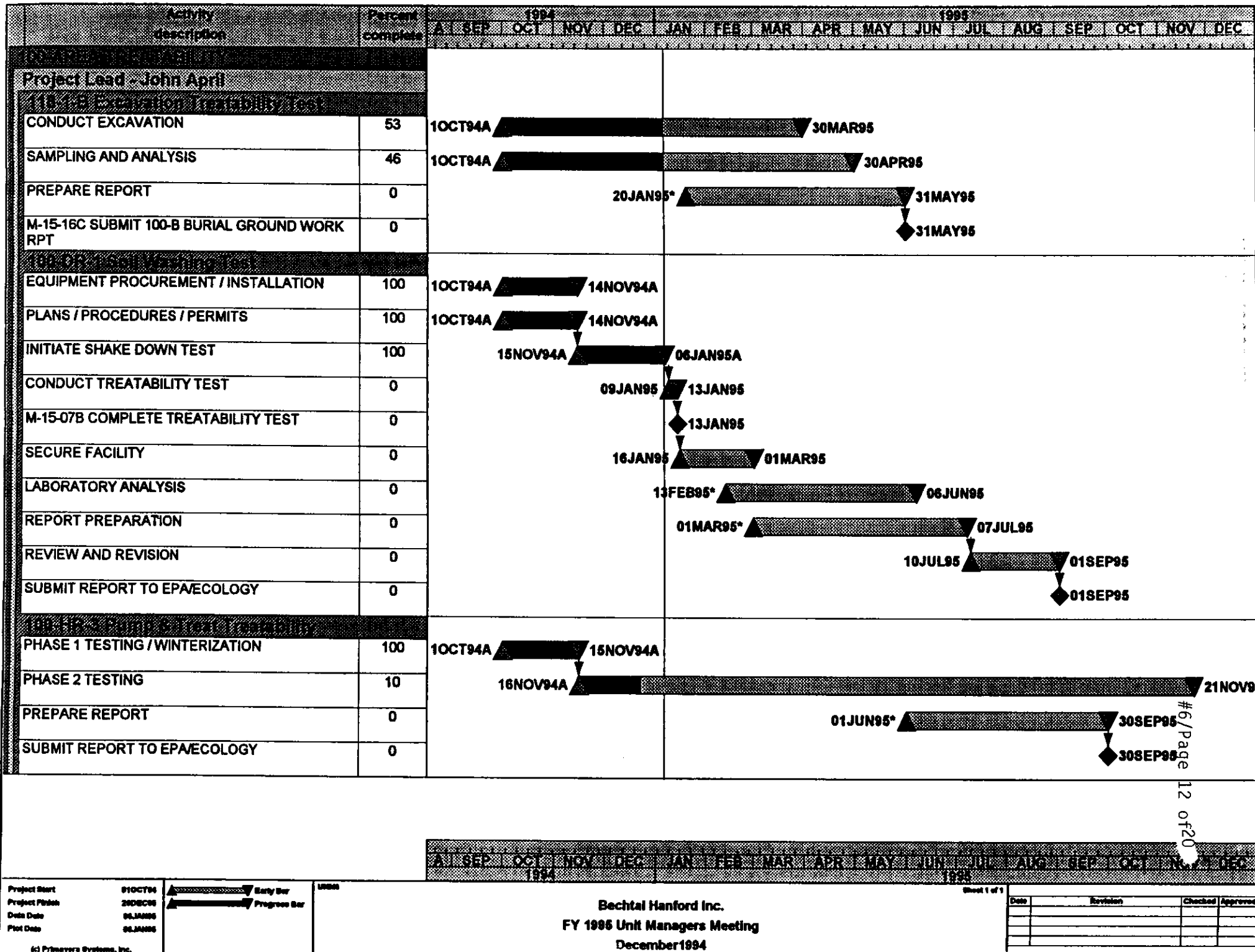
The Focused Feasibility Study and the IRM Proposed Plan are on hold per the DOE and regulator request to enable these entities to focus on the source area FFSS and Proposed Plans. Regulatory comments are expected in late January or early February.

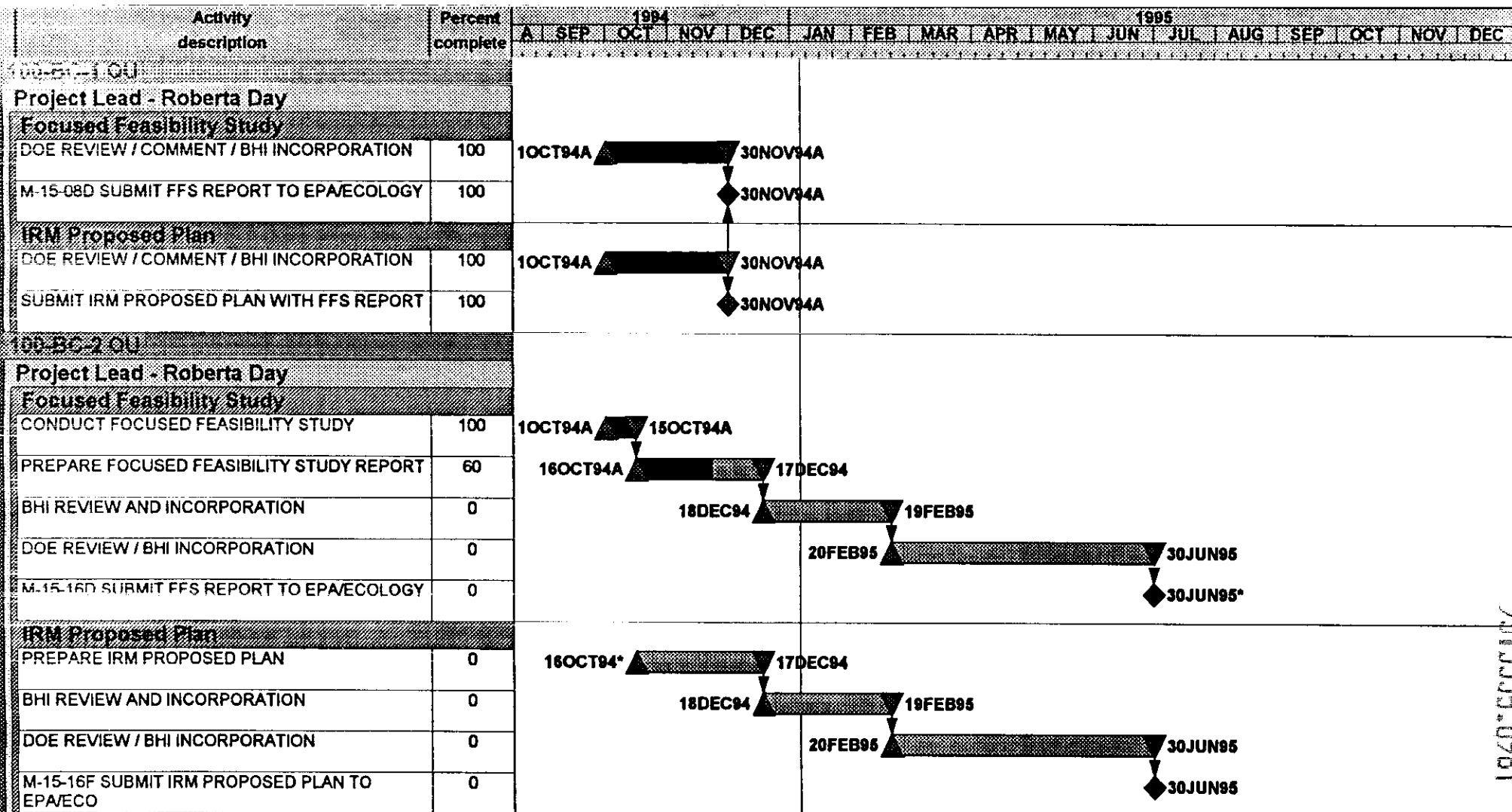
Round 7 groundwater sampling is currently in progress.

100-FR-3

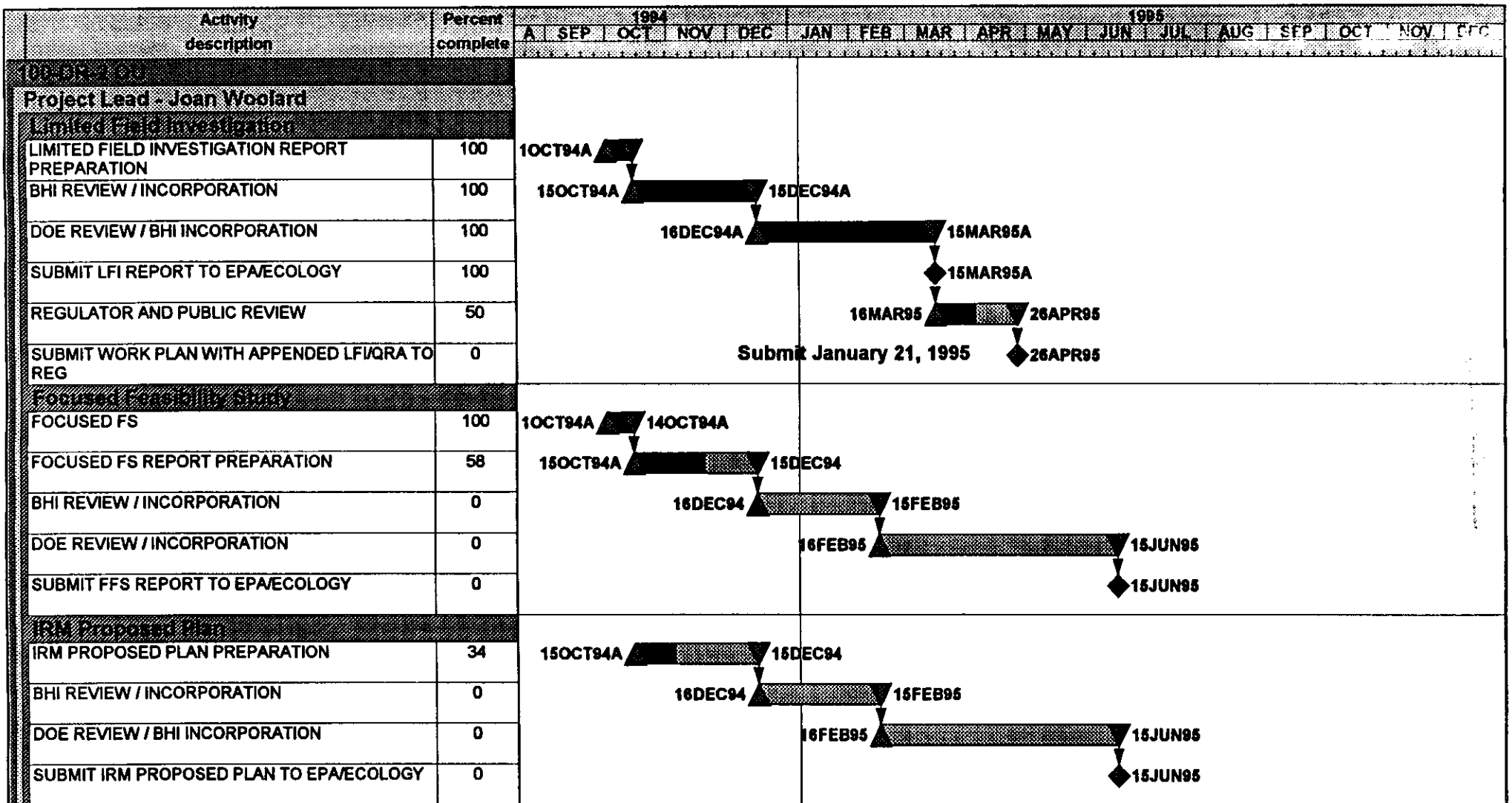
A change request (M-15-94-10) was signed by the DOE and the regulators delaying the Focused Feasibility Study and the IRM Proposed Plan milestones until December 31, 1995 to allow completion of TCE characterization in the OU.

Soil gas equipment has been used during multiple trips to the field in an attempt to locate TCE upgradient of the OU. Low levels of TCE have been found but work to date has not been able to discern the source. Cold weather has shut down further efforts at this time (cannot obtain reliable data). A meeting will be held with the DOE and the regulators to update them on the current status of the soil gas efforts with recommendations for future actions.





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Project Start 01OCT94  
 Project Finish 30DEC94  
 Data Date 06JAN95  
 Plot Date 06JAN95

UN95

Bechtel Hanford Inc.  
 FY 1995 Unit Managers Meeting  
 December 1994


Sheet 1 of 1

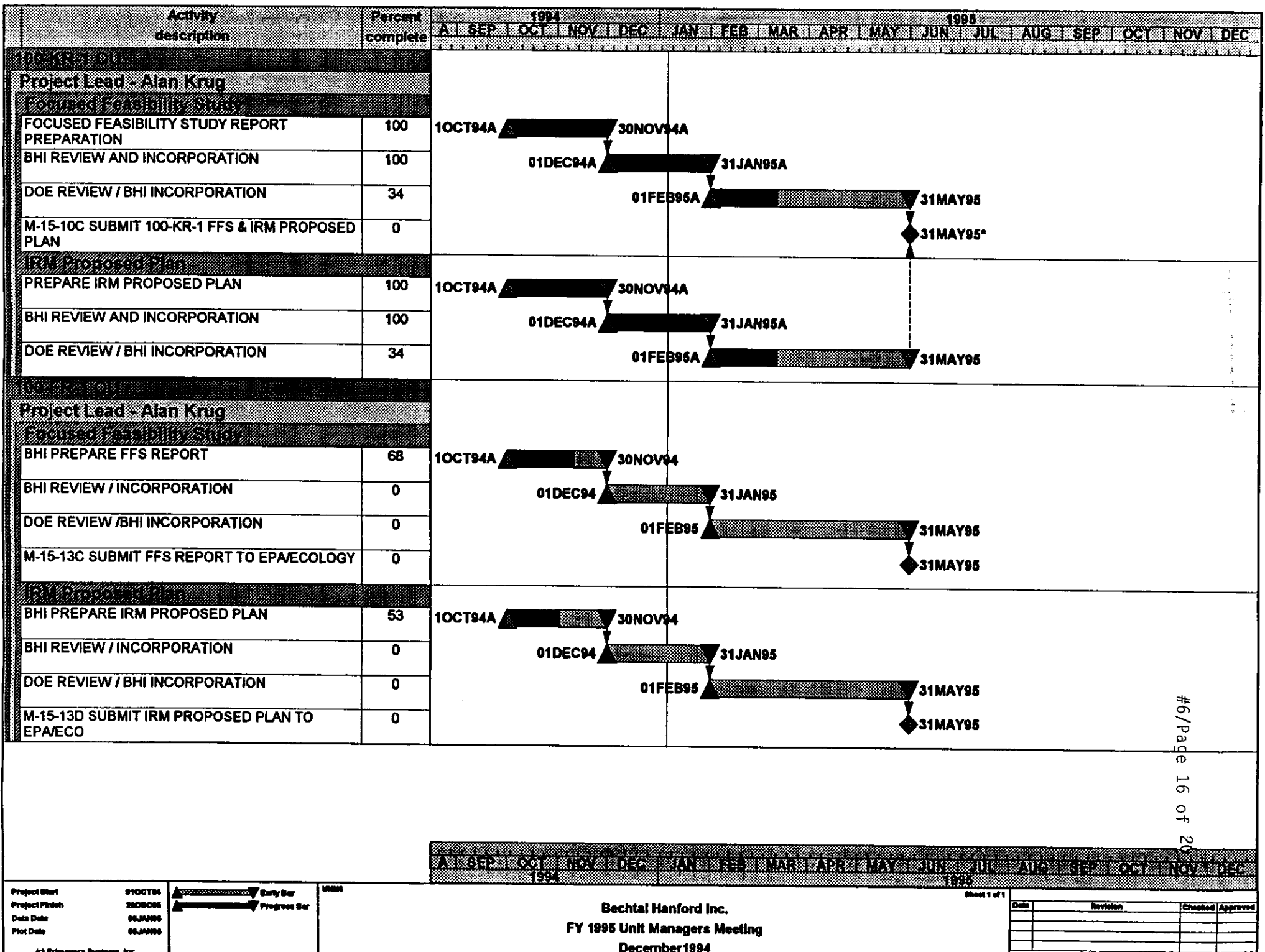
Date	Revision	Checked	Approved







Activity description	Percent complete	1994					1995											
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100-HR-2-OU																		
Project Lead Chuck Hedel																		
Focused Feasibility Study																		
DOE REVIEW / BHI INCORPORATION	0	01OCT94					31JAN95											
M-15-18B SUBMIT FFS REPORT TO EPA/ECOLOGY	0						31JAN95											
IRM Proposed Plan																		
DOE REVIEW / BHI INCORPORATION	0	01OCT94					31JAN95											
M-15-18C SUBMIT IRM PROPOSED PLAN TO EPA/ECOLOGY	0						31JAN95											

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Project Start 01OCT94 Project Finish 28DEC95 Data Date 06JAN95 Plot Date 06JAN95			100-HR-2-OU Bechtel Hanford Inc. FY 1995 Unit Managers Meeting December 1994	Sheet 1 of 1 <table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>	Date	Revision	Checked	Approved												
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Activity description	Percent complete	1994												1995											
		A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC							
100-BC-5 GROUNDWATER OU																									
Project Lead - Richard Biggerstaff																									
Focused Feasibility Study																									
DOE REVIEW / BHI INCORPORATION	100	1OCT94A  31OCT94A																							
M-15-09C SUBMIT FFS REPORT TO EPA/ECOLOGY	100	◆ 31OCT94A																							
IRM Proposed Plan																									
DOE REVIEW / BHI INCORPORATION	100	1OCT94A  31OCT94A																							
M-15-09D SUBMIT IRM PROPOSED PLAN TO EPA/ECO	100	◆ 31OCT94A																							
100-KR-4 GROUNDWATER OU																									
Project Lead - Richard Biggerstaff																									
Focused Feasibility Study																									
DOE REVIEW / BHI INCORPORATE	100	1OCT94A  31OCT94A																							
M-15-11C SUBMIT FFS REPORT TO EPA/ECO	100	◆ 31OCT94A																							
DOE REVIEW / BHI INCORPORATION	100	1OCT94A  31OCT94A																							
M-15-11D SUBMIT IRM PROPOSED PLAN TO EPA/ECO	100	◆ 31OCT94A																							
100-FR-3 GROUNDWATER OU																									
Project Lead - Richard Biggerstaff																									
Focused Feasibility Study																									
DOE REVIEW / BHI INCORPORATION	100	1OCT94A  14DEC94A																							
M-15-13G SUBMIT FFS REPORT TO EPA/ECOLOGY	100	◆ 14DEC94A																							
IRM Proposed Plan																									
DOE REVIEW / BHI INCORPORATION	100	1OCT94A  14DEC94A																							
M-15-13H SUBMIT IRM PROPOSED PLAN TO EPA/ECOLOGY	100	◆ 14DEC94A																							

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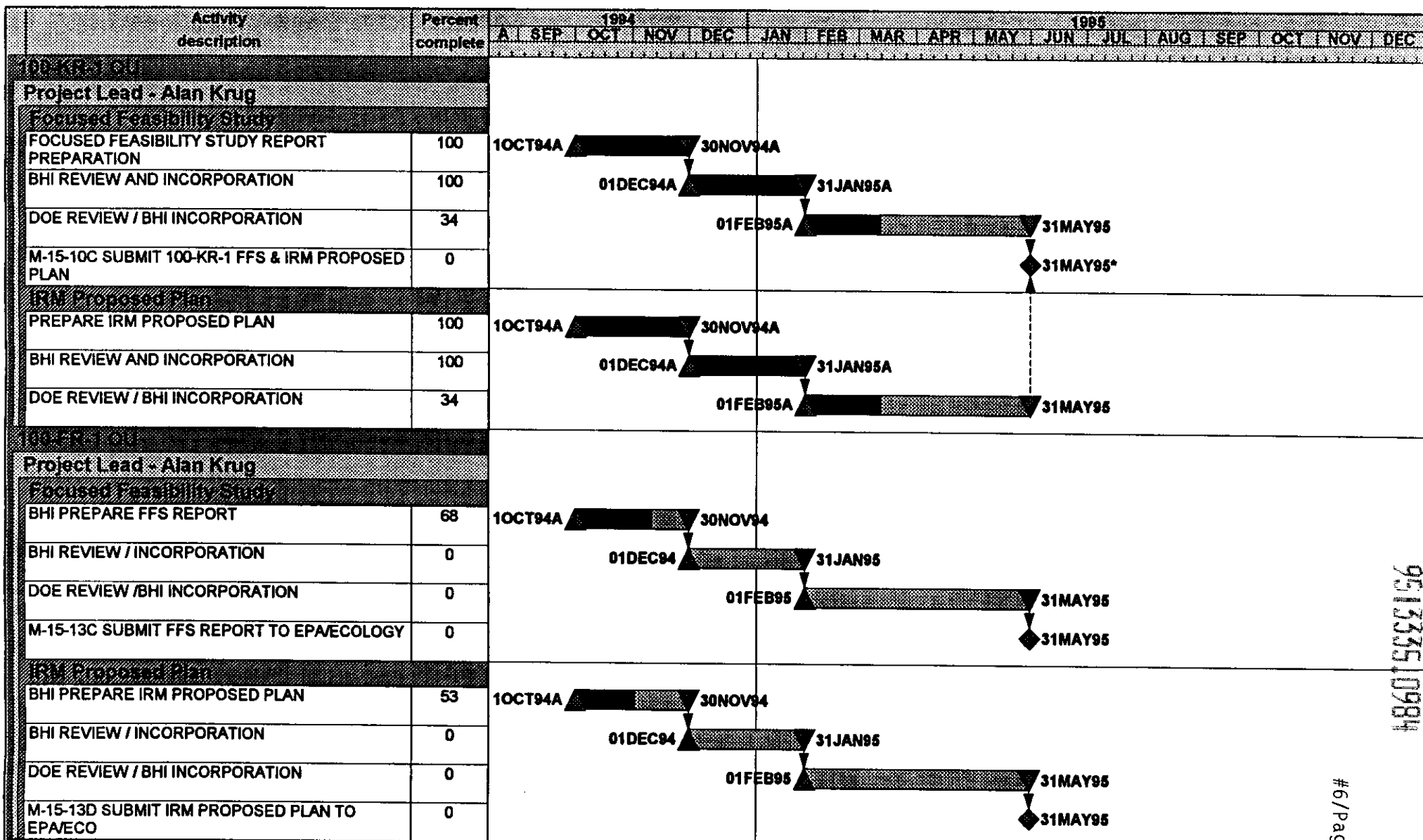
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Project Finish	30DEC94		Progress Bar
Date Date	06JAN95		
Plot Date	06JAN95		

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Project Start 01OCT84  
 Project Finish 28DEC86  
 Date Date 06JAN86  
 Plot Date 06JAN86

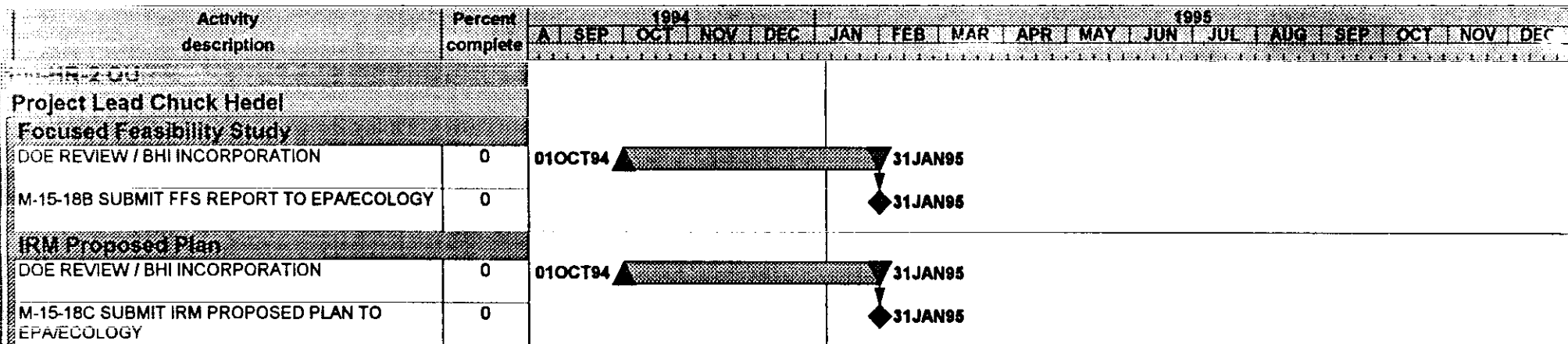
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 Early Bar  
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Project Start 01OCT94  Early Bar  
 Project Finish 28DEC96  Progress Bar  
 Data Date 06JAN96  
 Plot Date 06JAN96

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Activity description	Percent complete	1994				1995													
		A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
100-BE-5 GROUNDWATER OU																			
Project Lead - Richard Biggerstaff																			
Focused Feasibility Study																			
DOE REVIEW / BHI INCORPORATION	100	1OCT94A [redacted] 31OCT94A																	
M-15-09C SUBMIT FFS REPORT TO EPA/ECOLOGY	100	[redacted] 31OCT94A																	
IRM Proposed Plan																			
DOE REVIEW / BHI INCORPORATION	100	1OCT94A [redacted] 31OCT94A																	
M-15-09D SUBMIT IRM PROPOSED PLAN TO EPA/ECO	100	[redacted] 31OCT94A																	
100-KR-4 GROUNDWATER OU																			
Project Lead - Richard Biggerstaff																			
Focused Feasibility Study																			
DOE REVIEW / BHI INCORPORATE	100	1OCT94A [redacted] 31OCT94A																	
M-15-11C SUBMIT FFS REPORT TO EPA/ECO	100	[redacted] 31OCT94A																	
DOE REVIEW / BHI INCORPORATION	100	1OCT94A [redacted] 31OCT94A																	
M-15-11D SUBMIT IRM PROPOSED PLAN TO EPA/ECO	100	[redacted] 31OCT94A																	
100-FR-3 GROUNDWATER OU																			
Project Lead - Richard Biggerstaff																			
Focused Feasibility Study																			
DOE REVIEW / BHI INCORPORATION	100	1OCT94A [redacted] 14DEC94A																	
M-15-13G SUBMIT FFS REPORT TO EPA/ECOLOGY	100	[redacted] 14DEC94A																	
IRM Proposed Plan																			
DOE REVIEW / BHI INCORPORATION	100	1OCT94A [redacted] 14DEC94A																	
M-15-13H SUBMIT IRM PROPOSED PLAN TO EPA/ECOLOGY	100	[redacted] 14DEC94A																	

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A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Project Start	01OCT94	Early Bar	Unset
Project Finish	29DEC96	Progress Bar	
Date Date	06JAN95		
Plot Date	06JAN95		

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December 1994

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Date	Revision	Checked	Approved

Control Number: 75	100 NPL Agreement/Change Control Form  ___ Change X Agreement ___ Information Operable Unit(s): 100-KR-2	Date Submitted: 11/3/94 Date Approved: 11/30/94
Document Number and Title:  N/A		Date Document Last Issued:  N/A
Originator: A. D. Krug		Phone: 376-5634
<p>Summary Description:</p> <p>Milestone M-13-001 calls for the submittal of planning documentation necessary to complete the RI/FS process for the 100-KR-2 Operable Unit (OU). It does not, however, define what this planning documentation consists of. The 100-KR-2 Unit Managers have met and agreed that a traditional OU work plan would not be part of this documentation and such a work plan should not be prepared. The intent of the work plan will be met by preparing a focus document, which will have public review and would be a Primary Document. The focus document will be approximately 15-20 pages in length and include:</p> <ul style="list-style-type: none"><li>• a description of the process to be followed to reach an interim action record of decision (ROD) for the 100-KR-2 OU.</li><li>• a tabular description of the waste sites and facilities within the 100-KR-2 OU and a recommendation as to which sites should be considered for LFI, interim remedial measure (IRM), for low priority status and for D&amp;D activity.</li><li>• a schedule for the activities necessary for DOE to submit the IRM proposed plan to the regulators.</li></ul>		
Justification and Impact of Change:		
Provides a more precise description of the deliverable associated with the milestone. No impact.		
A. D. Krug <i>Alan D. Krug</i> BHI Project Manager	Date 11/21/94	
J. M. Bruggeman <i>J. M. Bruggeman</i> DOE Unit Manager	Date 11/21/94	
D. P. Holland <i>D. P. Holland</i> Ecology Unit Manager	Date 11/30/94	
L. E. Gadbois <i>LE Gadbois</i> Env. Protection Agency Unit Manager	Date 11-30-94	
Per Action Plan for Implementation of the Hanford Consent Order and Compliance Agreement Section 9.3.		

100 NPL Agreement/Change Control Form										
Control Number  74	<input checked="" type="checkbox"/> Change <input checked="" type="checkbox"/> Agreement <input type="checkbox"/> Information Operable Unit(s) <u>100-KR-2 and -3</u>	Date Submitted: 11-3-94  Date Approved: 11/30/94								
Document Number & Title: Approval of designation of facilities and waste sites for 100-KR-2/100-KR-3 Operable Unit.		Date Document Last Issued:  N/A								
Originator: S. G. Weiss		Phone: 376-1683								
Summary Description: Designations of 100-KR-2 and 100-KR-3 Operable Unit "facilities" and "waste sites," with proposed dispositions and investigation approaches, are presented for approval in Tables 1 and 2 (attached).										
Justification and Impact of Change: To provide agreed upon initial definitions of waste sites and facilities for preparing the 100-KR-2/100-KR-3 Operable Unit planning documentation necessary to meet TPA Milestone M-13-00I. No impact.										
<table border="0"> <tbody> <tr> <td> <u>A. D. Krug</u>            BHI K Area Task Leader         </td> <td> <u>Alan D. Krug</u>            Date         </td> </tr> <tr> <td> <u>J. M. Bruggeman</u>            DOE Unit Manager         </td> <td> <u>11/21/94</u>            Date         </td> </tr> <tr> <td> <u>L. E. Gadbois</u>            EPA Unit Manager         </td> <td> <u>11-30-94</u>            Date         </td> </tr> <tr> <td> <u>D. P. Holland</u>            Ecology Unit Manager         </td> <td> <u>11-30-94</u>            Date         </td> </tr> </tbody> </table>			<u>A. D. Krug</u> BHI K Area Task Leader	<u>Alan D. Krug</u> Date	<u>J. M. Bruggeman</u> DOE Unit Manager	<u>11/21/94</u> Date	<u>L. E. Gadbois</u> EPA Unit Manager	<u>11-30-94</u> Date	<u>D. P. Holland</u> Ecology Unit Manager	<u>11-30-94</u> Date
<u>A. D. Krug</u> BHI K Area Task Leader	<u>Alan D. Krug</u> Date									
<u>J. M. Bruggeman</u> DOE Unit Manager	<u>11/21/94</u> Date									
<u>L. E. Gadbois</u> EPA Unit Manager	<u>11-30-94</u> Date									
<u>D. P. Holland</u> Ecology Unit Manager	<u>11-30-94</u> Date									
Per Action Plan for Implementation of the Hanford Consent Order and Compliance Agreement Section 9.3.										

**Table 1. Waste Sites in the 100-KR-2 and -3 Operable Units. (sheet 1 of 5)**

Site designation (Alias) ( <sup>(a)</sup> Section)	Site Purpose	Site Description	Disposition	Investigation Approach
Within the 100-KR-2 Operable Unit				
116-KE-1 (115-KE) Condensate Crib (5.1)	1955-1971; Received liquid waste from gas purification system	40 ft long; 40 ft wide; 26 ft deep French drain with 1 ft layer of gravel and backfilled; contained system of distribution pipes	High priority: liquid waste  <sup>(b)</sup> IRM	<sup>(c)</sup> GPR for location; Historical sampling and records for inventory
116-KE-2 (1706-KER) Waste crib (5.2)	1955-1971; Received liquid waste from cleanup columns in the 1706-KER loop	16 ft long; 16 ft wide; 32 ft deep Wooden crib structure within pit filled with 10 ft layer of gravel and backfilled; distribution pipe enters pit 23 ft below grade	High priority: liquid waste  IRM	Historical sampling and records for inventory
116-KE-3 (105-KE storage basin french drain, 105-KW) Reverse well (5.3)	1955-1971; Used as an overflow for drainage from KE reactor fuel storage basin	20 ft diameter; 78 ft deep Drain field 29 ft below grade with perforated steel casing extending into the water table	High priority: liquid waste  IRM	KE and KW analogous; historical records (Soil samples from well drilling)
116-KW-1 (115-KW Condensate crib (5.9)	1955-1970; Received liquid waste from reactor gas purification system	40 ft long; 40 ft wide; 26 ft deep Pit filled with 10 ft layer of gravel and backfilled to grade; contained distribution system of pipe	High priority: liquid waste  IRM	GPR to determine location; Historical sampling and records for inventory
116-KW-2 (105-KW storage basin french drain)  (5.10)	1955-1970; Used as an overflow for drainage from 105-KW storage basin	20 ft diameter; 78 ft deep Drain field 29 ft below grade with perforated steel casing extending into the water table	High priority: liquid waste site  IRM	Analogous to 116-KE-3
118-K-2 Sludge burial ground (5.13)	Disposal of radioactive sludge from retention basins	East/southeast of 116-KE-4	High priority IRM	GPR to determine location; analogous to sludge burial trench north of 107-B basin sampled in 1976

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Table 1. Waste Sites in the 100-KR-2 and -3 Operable Units. (sheet 2 of 5)

Site designation (Alias) ( <sup>(a)</sup> Section)	Site Purpose	Site Description	Disposition	Investigation Approach
Undocumented French Drain (5.38)	South side of 119-KW, received radioactive effluent from 119-KW Sample Building	1-ft dia concrete drain, 6 in above grade	High priority IRM	IRM: Observational approach
UPR-100-K-1 Fuel storage basin leak (5.29)	Discovered 1974; leak assumed stopped; Unplanned release		Defer to reactor decommissioning/ K Basin cleanup	
118-K-1 100-K Solid waste burial ground (5.12)	1954-1973; Used for burial of solid waste from the 100-K and 100-N reactors	1,200 ft long; 600 ft wide; 20 ft deep Burial ground; contains numerous trenches and pits; surface routinely treated with herbicide; contains large radionuclide inventory	Solid waste burial ground	Analogous to other burial grounds, historical (1976) sampling records exist for 118-B-1
116-KE-5 (5.4)	Heat recovery facility--junction box	Ethylene glycol pipeline leak at junction box next to 150-KE parking lot	Low priority	Defer to final K-Area cleanup
126-K-1 (100-K gravel pit) (5.20)	1970s-present; Received inert waste and debris from demolition	Gravel pit left from 100-K Area construction; 5 ft layer of waste covered by 1 ft layer of backfill	Low priority	Defer to final K-Area cleanup
1607-K4 (124-K-2) Septic tank (5.30)	1955-present; Received sanitary sewage from office building and maintenance shop	Septic tank and drain field	Low priority	Defer to final K-area cleanup
1607-K6 (124-KW-1) Septic tank (5.30)	1955-present; Received sanitary sewage from reactor building, recirculation building, and powerhouse	Septic tank and drain field	Low priority	Defer to final K-Area cleanup

Table 1. Waste Sites in the 100-KR-2 and -3 Operable Units. (sheet 3 of 5)

Site designation (Alias) ( <sup>(a)</sup> Section)	Site Purpose	Site Description	Disposition	Investigation Approach
118-KE & KW-2 French Drains, 104-K Dry well, associated with rod caves (5.15 and 5.17)	Receive drainage from rod caves via 3-in drain pipes	2-ft dia steel pipe with steel cover, gravel filled to grade (2 each area)	Low priority	Subsurface radiation survey; Cleanup with D&D of Rod Cave
130-K-1 (1717-K gasoline storage tank) (5.21)	1955-1972; Stored gasoline	Removed in July 1989; no sign of leakage from tank, as reported in logbook WHC-N-270	Remove waste site designation	
130-K-2 (1717-K waste oil storage tank) (5.22)	1955-1972; Stored used motor oil	Removed in July 1989; no sign of leakage from tank, as reported in logbook WHC-N-270	"	
130-KE-1 130-KW-1 (105-KE/105-KW emergency diesel fuel tanks) (5.23 & 5.27)	1955-1971 (KE); 1955-1970 (KW); Stored diesel fuel	Two 2,000-gal tanks in each area, removed 1992. No sign of leakage or contamination at 130-KE1; 130-KW-1 showed radionuclide contamination	Remove waste site designation from 130-KE-1; keep 130-KW-1 as waste site (low priority)	Defer 130-KW-1 site to final K-Area cleanup
Undocumented French Drain (5.32)	1962-?; East side of 1706-KE; Store sodium hydroxide and sulfuric acids	18-in, 4-ft long clay pipe	<sup>(c)</sup> TBD	Historical records; chemical process analysis review
Undocumented Liquid Waste Site (5.33)	Isolated French drain, west of 166-KW Oil tank	3- 4-ft dia, 1 ft above grade	TBD	"
118-K-3 Filter Crib Undocumented liquid waste site (5.34)	Liquid wastes from 1705 KE/KER laboratory? (DOE-RL 1992); evidence says that wastes went to 116-KE-2 crib	Not seen, under power system; may not exist	TBD - appears site never existed	Use historians to confirm presence or absence
Facility pipelines	Transport of process and waste liquids	Various locations and sizes.	TBD	Records will be reviewed for leakage and pipes assigned to appropriate program

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Table 1. Waste Sites in the 100-KR-2 and -3 Operable Units. (sheet 4 of 5)

Site designation (Alias) ( <sup>(a)</sup> Section)	Site Purpose	Site Description	Disposition	Investigation Approach
Undocumented French Drain (5.37)	East side of 1705-KE	3-ft dia clay pipe, 1 ft above grade	TBD	Subsurface radiation survey, historical records. If no evidence of contamination, defer to final K-Area cleanup
Within the 100-KR-3 Operable Unit				
120-KE-2 French drain (183-KE filter waste facility, 100-KE-2) (6.2)	1955-1971; Received sulfuric acid sludge from sulfuric acid storage tanks; sludge contained mercury (Hg)	3 ft diameter; 3 ft deep Open bottom pit;	High priority, liquid waste, IRM	Historical data
120-KE-3 (183-KE filter water facility trench, 100-KE-3) (6.3)	1955-1970; Received sulfuric acid sludge from sulfuric acid storage tanks; sludge contained Hg. Sludge removed	40 ft long; 3 ft wide; 3 ft deep	High Priority: liquid waste, IRM	Screening for Hg
120-KW-1 French drain (183-KW filter water facility dry well) (6.8)	1955-1970; Received sulfuric acid sludge from sulfuric acid storage tanks; sludge contained Hg	4 ft long; 4 ft wide; 4 ft deep Pit with wooden cover (site not located)	High priority IRM	IRM: Observational approach
120-KW-2 French drain 183-KW water facility french drain, 100-KW-2) (6.9)	1955-1970; Received sulfuric acid sludge from sulfuric acid storage tanks	3 ft diameter; 3 ft deep Open bottom pit	High priority IRM	IRM: Observational approach
128-K-1 (100-K burning pit) (6.16)	1955-1971; Used for disposal of nonradioactive combustible waste	100 ft long; 100 ft wide; 10 ft deep covered with clean fill	Low priority	Limited field screening for organics
128-K-2 (100-K construction dump and burning pit) (6.17)	Used for surface burning of construction, laboratory, office and shop waste and asbestos burial	800 ft long; 280 ft wide	Low Priority	Analogous to 128-K-1 and 600-29
600-4 Howitzer site (6.19)	Military emplacement and debris	15-20 acres, surface debris	Candidate for Landlord Cleanup	
600-29 Construction laydown area (6.20)	1952-?; Miscellaneous construction debris	46 acres	Candidate for Landlord Cleanup	Limited field screening for organics

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Table 1. Waste Sites in the 100-KR-2 and -3 Operable Units. (sheet 5 of 5)

Site designation (Alias) ( <sup>(a)</sup> Section)	Site Purpose	Site Description	Disposition	Investigation Approach
1607-K1 Septic tank (124-K-1) (6.21)	1955-present; Received sanitary sewage from badge house, offices, and trailer	Septic tank and tile field	Low priority	Defer to final K-Area cleanup
1607-K2 Septic tank (124-KE-1) (6.21)	1955-present; Received sanitary sewage from water treatment plant	Septic tank and tile field	Low priority	Defer to final K-Area cleanup
1607-K3 Septic tank (124-KW-2) (6.21)	1955-present; Received sanitary sewage from water treatment plant	Septic tank and tile field	Low priority	Defer to final K-Area cleanup
1607-K5 Septic tank (124-KE-2) (6.21)	1955-present; Received sanitary sewage from powerhouse, reactor building, gas recirculation building, and laboratories	Septic tank and tile field	Low priority	Defer to final K-Area cleanup
Undocumented Solid Waste Site (6.31)	West of 100-K, southeast of 128-K-2 burn pit; Old farmstead dump and paved area	paved area; collapsed wooden structure, farm debris	Low priority	Cultural resources Review
120-KE-1 French drain (183-KE filter waste facility dry well, 100-KE-1) (6.1)	1955-1971; Received sulfuric acid sludge from sulfuric acid storage tanks	May have never existed	TBD	Historical review
130-K-3 (182-K emergency diesel oil storage tank) (6.18)	1955-1971; Stored diesel oil	2 tanks with 17,500-gal capacity; removed in 1993. No sign of leakage according to removal report	Remove from waste site designation	
Undocumented Solid Waste Site Sandblasting area (6.32)	early 1980s; sandblasted steel components from 183-KE settling basins	50 yd by 30 yd area of red garnet	Remove from consideration as a waste site	
Sources: AEC-GE 1964; Dorian and Richards 1978; and DOE-RL 1991.				

(a) Refers to the pertinent section in Carpenter, R. W., and S. L. Cote', 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-TI-239, Westinghouse Hanford Company, Richland, Washington.

(b) IRM: Interim Remedial Measure

(c) GPR: Ground Penetrating Radar

(d) TBD: To Be Determined; need more information to categorize site

Table 2. Facilities Listed in the Technical Baseline Report for the 100-KR-2 and -3 Operable Units. (sheet 1 of 4)

Site/Facility designation (Alias) ( <sup>(a)</sup> Section)	Name	Years in service	Facility purpose	Site/Facility description	Disposition
Within the 100-KR-2 Operable Unit					
116-KE-5 (150-KW/150-KE) (5.4)	Heat recovery facilities	1955-1971	Provided heat recovery from cooling water effluent	Piping and heat exchangers on concrete pad south of retention basins; only concrete pad remains, glycol tanks (removed) were north of 156-KE	Facility - <sup>(b)</sup> D&D, Not a <sup>(c)</sup> CPP site
116-KE-6A (1706-KE collection tank, 1706-KE waste treatment system) (5.5)	Storage tank	1986-present	Used to treat mixed waste from 1706-KE laboratories	96-gal condensate collection tank; only concrete pad and piping remain	Facility - D&D, Not a CPP site
116-KE-6B (1706-KE waste treatment system, 1706-KE evaporation tank) (5.6)	Storage tank	1986-present	Used to treat mixed wastes from 1706-KE laboratories	30-gal evaporation unit (inside laboratory building)	Facility - D&D, Not a CPP site
116-KE-6C (1706-KE waste accumulation tank, 1706-KE waste treatment system) (5.7)	Storage tank	1986-present	Used to treat mixed wastes from 1706-KE laboratories	550-gal waste accumulation tank (inside laboratory building)	Facility - D&D, Not a CPP site
116-KE-6D (1706-KE waste treatment system) (5.8)	Ion exchange column	1986-present	Used to treat mixed wastes from 1706-KE laboratories	5 ft <sup>3</sup> Mixed-bed resin ion exchange column (inside laboratory building)	Facility - D&D Not a CPP site
116-KW-4 (150-KW/150-KE) (5.11)	Heat recovery facilities	1955-1970	Provided heat recovery from cooling water effluent	Piping and heat exchangers on concrete pad south of retention basins; only concrete pad remains, glycol tanks (removed) north of 165-KW bldg	Facility - D&D Not a CPP site
118-KE-1 118-KW-1 (105-KE/105-KW) (5.14 & 5.16)	Reactor buildings	KW 1955-1970 KE 1955-1971	Provided housing for reactors and ancillary facilities	275 ft long; 213 ft wide; 120 ft tall reinforced-concrete and steel multi-story structure	Facilities - D&D, Not a CPP site
K-Basins	K-Basins	1955-present	Currently store spent N-reactor fuel	Part of reactor facility	Under TPA Milestone M-34

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Table 2. Facilities Listed in the Technical Baseline Report for the 100-KR-2 and -3 Operable Units. (sheet 2 of 4)

Site/Facility designation (Alias) ( <sup>(a)</sup> Section)	Name	Years in service	Facility purpose	Site/Facility description	Disposition
118-KE-2 118-KW-2 (105-KE/105-KW horizontal control rod storage cave) (5.15 & 5.17)	Storage facility	1955-1971	Used for temporary storage of radioactive rod tips	40 ft long; 25 ft wide Concrete tunnel covered with a 5 ft layer of earth	Facility - D&D, Not a CPP site
120-KE-8 120-KW-6 (165-KE, 165- KW) (5.18 & 5.19)	Brine pit	KW 1955-1970 KE 1955-1971	Used for mixing salt brine for water softeners	16 ft long; 10 ft wide; 10 ft deep Concrete subsurface pit	Facility - D&D, Not a CPP site
130-KE-2 130-KW-2 (166-KE/166-KW) (5.24 & 5.28)	Fuel oil storage and pumps associated with 165-KE/KW buildings	KW 1955-1970 KE 1955-1971	Storage and pump facilities for fuel oil for the oil-fired steam plant in the 165- KE/KW buildings	Large underground concrete fuel oil storage bunkers; 2,000 gal of oil may remain	Facility - D&D, Not a CPP site
132-KE-1 132-KW-1 (116-KE/116-KW) (5.25 & 5.26)	Reactor exhaust stacks	1955-1971 Partially dismantled 1980-1981	Discharged reactor building exhaust air	22 ft diameter; 300 ft tall Reinforced monolithic concrete, top 125 ft decontaminated and dismantled; rubble was placed in remaining base of stacks	Facility - D&D, Not a CPP site
Experimental Radiation Exposure (5.31)	Fish tanks	1956-1960	Conducted fish development experiments in reactor effluent waters	Concrete tanks	Facility - D&D Not a CPP site
Undocumented Heat Exchanger Pit (5.35)	East of Fish Studies Basins	?	Provide heat to laboratory	concrete pad	Facility - D&D, Not a CPP site
Undocumented Solid Waste Site (5.36)	Vacuum Pit	?	Reactor maintenance	10-ft dia vertical culvert 30-ft deep	Facility - D&D, Not a CPP site
Facilities Within the 100-KR-3 Operable Unit					
120-KE-4 (183-KE1 sulfuric acid storage tank) (6.4)	Storage tank	1955-1971	Used for storage of sulfuric acid product	10,109-gal capacity aboveground tank drained and cleaned	Facility - D&D, Not a CPP site
120-KE-5 (183-KE2 sulfuric acid storage tank) (6.5)	Storage tank	1955-1971	Used for storage of sulfuric acid product	10,109-gal capacity aboveground tank drained and cleaned	Facility - D&D Not a CPP site

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**Table 2. Facilities Listed in the Technical Baseline Report for the 100-KR-2 and -3 Operable Units. (sheet 3 of 4)**

Site/Facility designation (Alias) ( <sup>(a)</sup> Section)	Name	Years in service	Facility purpose	Site/Facility description	Disposition
120-KE-6 (183-KE sodium dichromate tank) (6.6)	Storage tank	1955-1971	Used for storage of sodium dichromate	Tank has been removed; base and piping remain	Facility - D&D, Not a CPP site
120-KE-9 (183-KE) (6.7)	Brine pit	1955-1971	Used for storage of salt brine product	23 ft long; 17 ft wide; 10 ft deep Underground concrete structure with 5 chambers; hatchway into each chamber	Facility - D&D, Not a CPP site
120-KW-3 (183-KW1) (6.10)	Storage tank	1955-1970	Used for storage of sulfuric acid	10,109-gal capacity aboveground tank drained and cleaned	Facility - D&D, Not a CPP site
120-KW-4 (183-KW2) (6.11)	Storage tank	1955-1970	Used for storage of sulfuric acid	10,109-gal capacity aboveground tank drained and cleaned	Facility - D&D, Not a CPP site
120-KW-5 (183-KW sodium dichromate tank) (6.12)	Storage tank	1955-1971	Used for storage of sodium dichromate	Tank emptied and removed; base and piping remain	Facility - D&D, Not a CPP site
120-KW-7 (183-KW brine pit) (6.13)	Brine pit	1955-1970	Used to store salt brine product	23 ft long; 17 ft wide; 10 ft deep Underground concrete structure with 5 chambers; hatchway into each chamber	Facility - D&D, Not a CPP site
126-KE-2 (183-KE liquid alum storage tank #2) (6.14)	Storage tank	1955-1971	Used for liquid alum storage	180,000-gal tank	Facility - D&D, Not a CPP site
126-KE-3 (183-KE liquid alum storage tank #1) (6.15)	Storage tank	1955-1971	Used for liquid alum storage	Unknown	Facility - D&D, Not a CPP site
Undocumented Sodium Silicate Storage Tanks (6.22)	183-KE & KW Sodium Silicate Storage Tanks		Stored sodium silicate, used to treat raw river water with high turbidity	30-ft dia tanks removed, concrete bases remain	Facility - D&D, Not a CPP site
Undocumented Caustic Soda Storage Tanks (6.23)	40 ft NE of 183-KW and -KE		Stored sodium hydroxide, used to regenerate ion exchange columns.	Tanks removed; concrete bases remain	Facility - D&D, Not a CPP site
Undocumented 100-KW Liquid Alum Storage Tanks (6.24)	183-KW Alum Storage Tanks		Stored alum for water treatment. From 1979 to "before 1990" stored diesel fuel; used 2 months in 1990-1991 for well purge water.	40-ft dia, 20-ft high tanks on concrete bases.	Facility - D&D, Not a CPP site

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**Table 2. Facilities Listed in the Technical Baseline Report for the 100-KR-2 and -3 Operable Units. (sheet 4 of 4)**

Site/Facility designation (Alias) ( <sup>(a)</sup> Section)	Name	Years in service	Facility purpose	Site/Facility description	Disposition
Undocumented Caustic Neutralization Pits (6.25)	East of 183-KW and 183-KE		Neutralize sodium hydroxide before flushing to process sewer	8' x 6' x 3' deep brick lined concrete box (one each area- KE pit covered with gravel)	Facility - D&D, Not a CPP site
Undocumented Acid Neutralization Pits (6.26)	Near 120-KW 3 & 4 and near 120-KE 4 & 5		Filled with limestone; neutralized acid, waste then drained to process sewer	8' x 6'; wooden cover, brick lined, concrete box	Facility - D&D, Not a CPP site
Undocumented Acid Neutralization Pits (6.27)	183 KW & KE Acid Neutralization Pits, between 183 building and 183 chlorine vault		Neutralize transfer and overflow waste from sulfuric acid tanks before draining to process sewer	8' x 6' x 5' deep brick-lined concrete box	Facility - D&D, Not a CPP site
Undocumented Acid Neutralization Pits and Dry Wells (6.28)	SW of 183-KE Alum tanks, S of 183-KE		Sulfuric acid overflow and drainage from the 183-KE day-use acid tank	15' deep, aggregate to 7', 5' of limestone, steel cover	Facility - D&D, Not a CPP site
Undocumented Sulfuric Acid Tanks (6.29)	Adjacent to existing acid tanks at KE and KW		Storage of sulfuric acid for water treatment	removed, concrete bases remain	Facility - D&D, Not a CPP site
Undocumented Bauxite Tanks (6.30)	183-KW & KE Bauxite Tank		Used to store bauxite, which was mixed with sulfuric acid to make alum	56 ft high, 13 ft dia tank	Facility - D&D, Not a CPP site
Sources: AEC-GE 1964; Dorian and Richards 1978; and DOE-RL 1991.					

(a) Refers to the pertinent section in Carpenter, R. W., and S. L. Cote, 1994, *100-K Area Technical Baseline Report*, WHC-SD-EN-11-239, Westinghouse Hanford Company, Richland, Washington.

(b) D&D: Decontamination and Decommissioning

(c) CPP: CERCLA Past Practice

9513335.0996

## **100-FR-3 Soil Gas Survey**

### **Preliminary Data Summary**

**January 19, 1995**

**Duane Jacques, Scientist**

**CH<sub>2</sub>M Hill Hanford, Inc.**

Figure 4-3 Trichloroethene Concentration in the Groundwater  
Maximum Representative Values 1992/1993

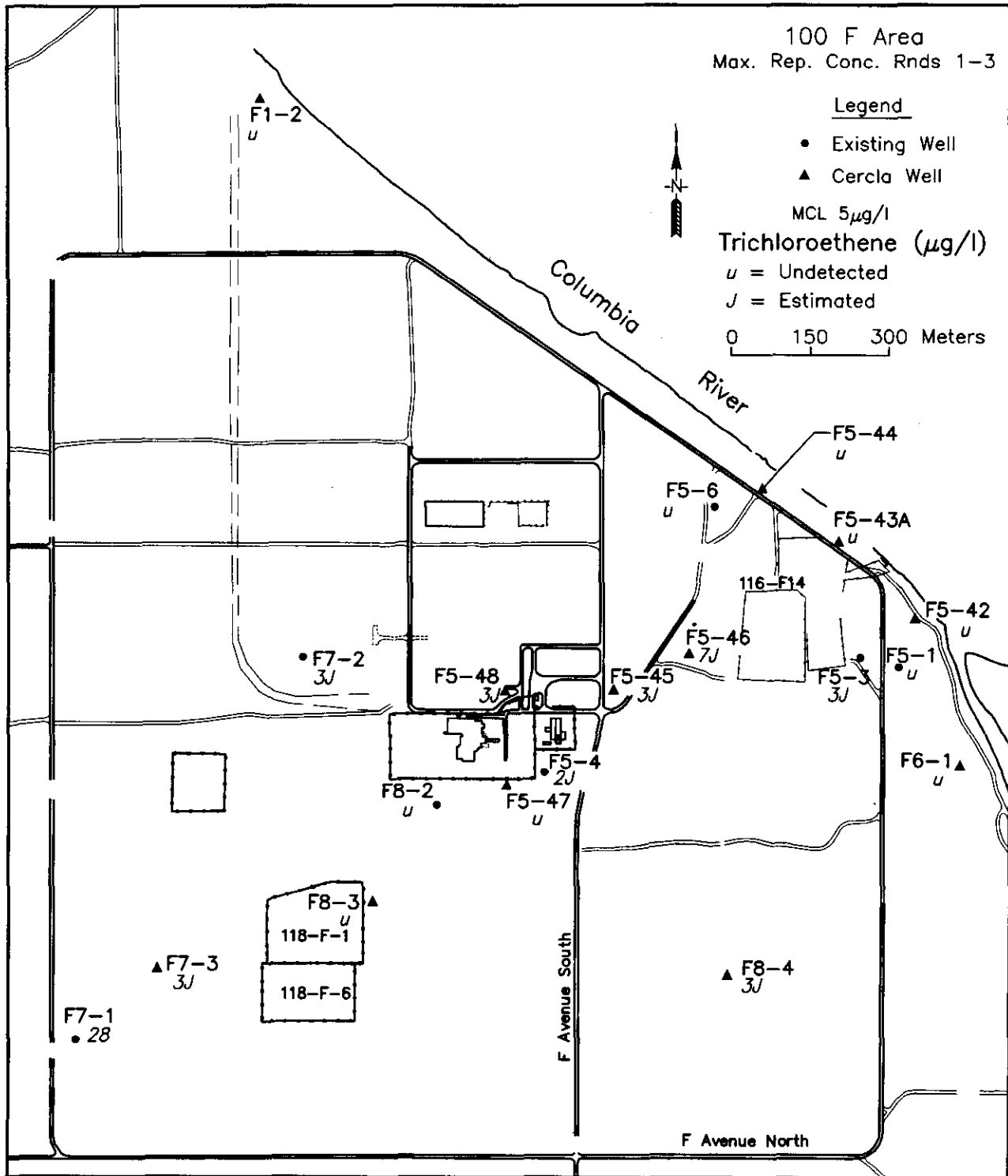
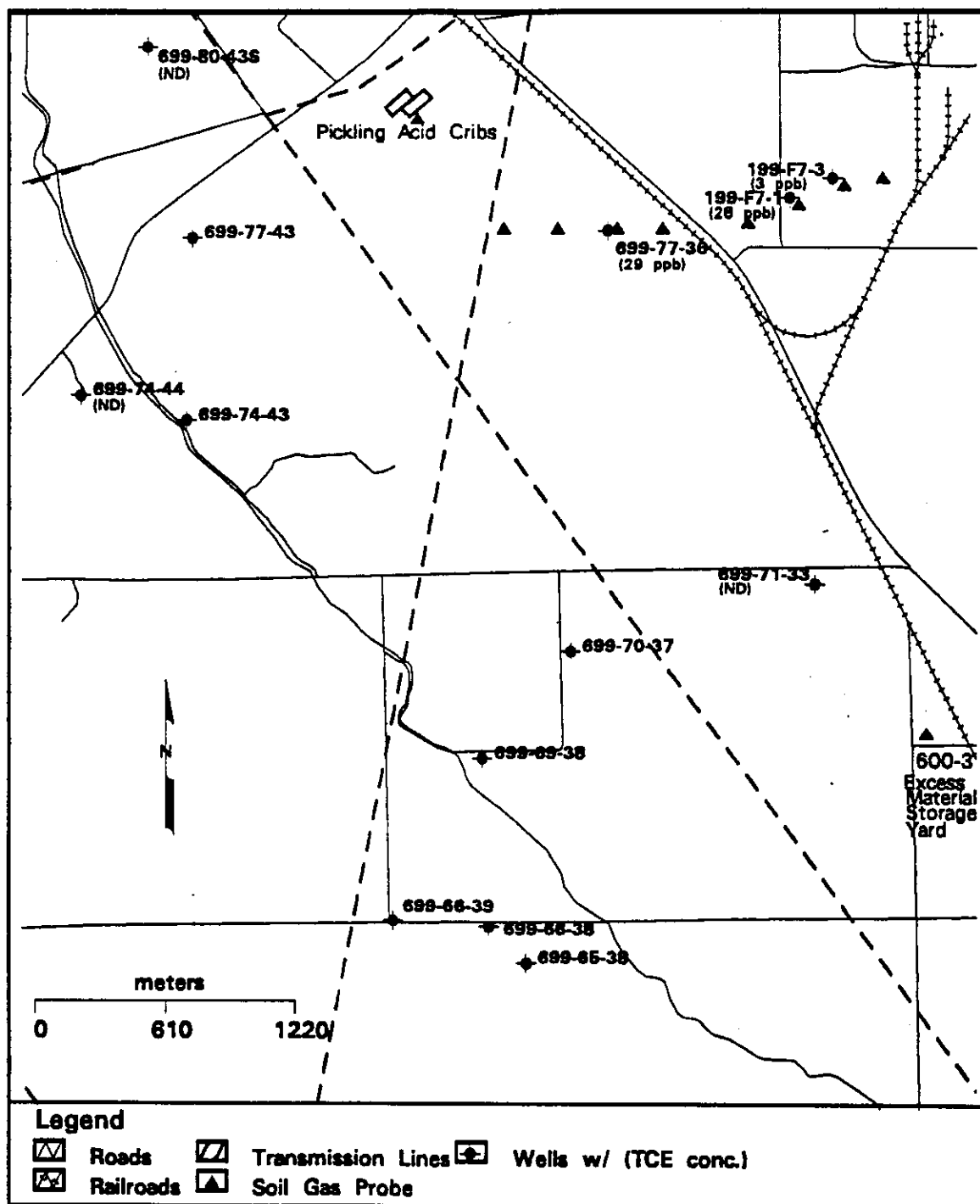




Figure 1. Initial Sample Grid for the 100-FR-3 Soil-Gas Survey.



BHI:lad:9-28-94

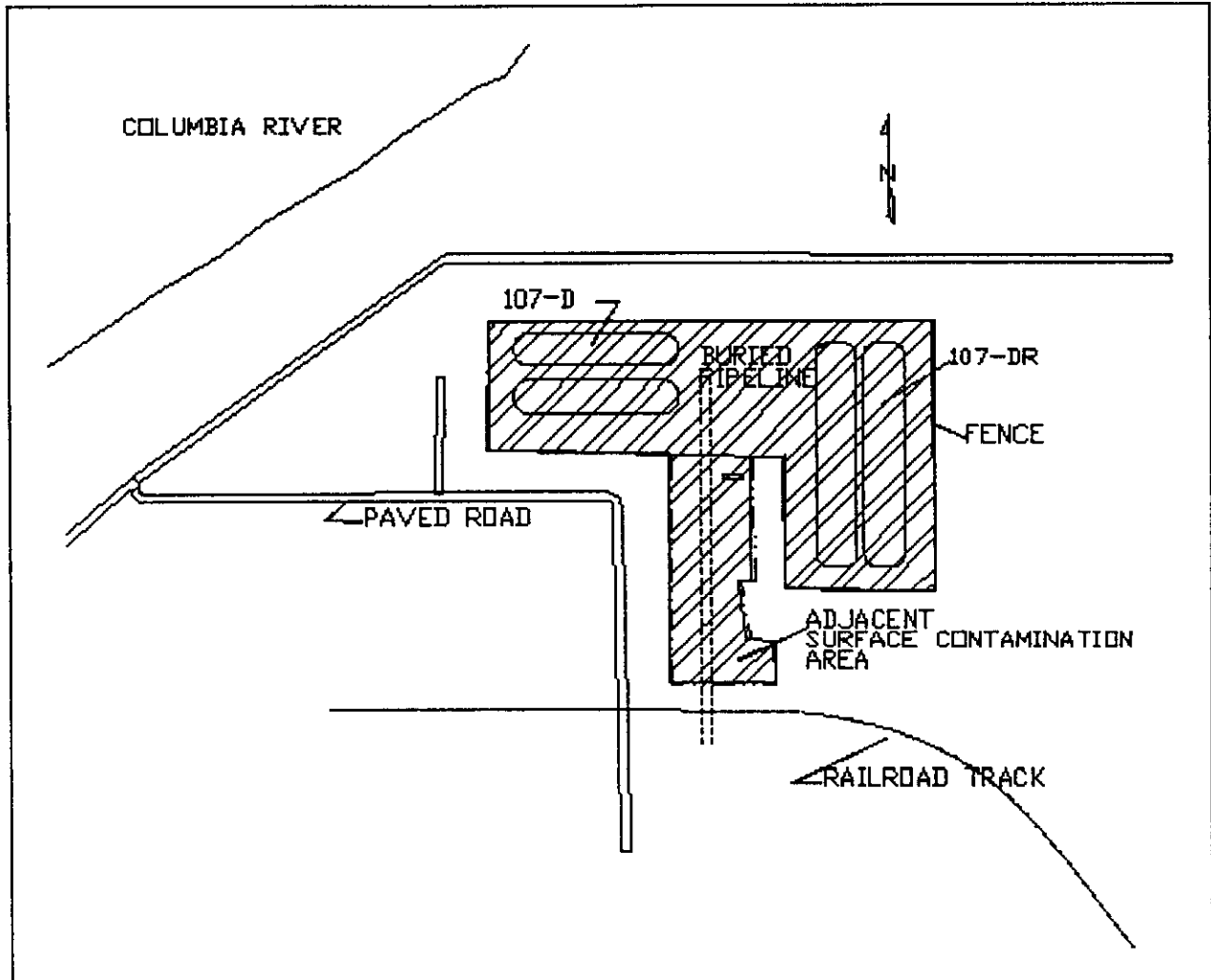
**LEGEND**

- Unimproved Roads
- Railroad
- Ditch
- Soil Gas Probe
- 17 TCE Concentration (ppb-v)
- Abandoned Building Site

Map features include: White Bluffs, Automotive Shop, Pipe Mfg. Shop, Ice Plant, Pickling Acid Cribs, Federal Avenue, Route 2, Tank Berm, Open Trench, Homestead, Well 699-77-36, Well 199-F7-3, Well 199-F7-1, F Avenue North, 100-F Area, and various soil gas probes with TCE concentrations (e.g., 30, 19, 6, 10, 32, 18, 32, 16, 2, 4, 14, 36, 9, 6, 12, 29, 27, 44, 54, 70, 32, 44, 15, 8, 5, 6, 17, 11, 2).

9550

RADIATION AREA REMEDIAL ACTION PROJECT  
107-D/DR RETENTION BASINS  
INTERIM STABILIZATION



**PROBLEM** Radiological surface contamination on 107-D/DR Retention Basins. Adjacent area to south posted surface contamination. Potential for migration, if not stabilized.

**SOLUTION** 107-D/DR (about 11.6 acres). Interim stabilize the retention basins with 12 inches of clean fill. Maintain on sterilitant herbicide program.

Adjacent area posted surface contamination (about 2.5 acres). Initial survey indicates no surface contamination. Survey/sample for posting as underground radioactive material, otherwise interim stabilize with clean fill. Initiate herbicide program on areas which are stabilized.

The Washington State Department of Ecology and the U.S. Environmental Protection Agency would like to inform you of our current position regarding remediation of the 100 Area Operable Units. The currently anticipated actions will be the issuance of three Proposed Plans which will describe all of the remedial alternatives evaluated for the HR-1, BC-1 and DR-1 Operable Units, as well as the preferred alternative. In addition, a range of potential risks based on varying land use, and therefore varying exposure scenarios were also developed and will be presented.

The 100 Area Source Focused Feasibility Study (FFS) evaluated six remedial action alternatives which may be applied to the waste sites. Of these the option the agencies believe will provide the best balance among the nine CERCLA evaluation criteria is the remove and dispose option. This choice can be augmented with a site by site cost/benefit analysis of the soil washing alternative to reduce the volume of contaminated soils.

The selection of a cleanup scenario is less straight forward and can be further complicated by inputting time as a variable to account for radioactive decay. The OU-specific FFS analyses used a base case scenario of occasional land use with residential groundwater use. This is defined by limiting land use exposure to (7) eight hour days per year and consuming 2 liters of groundwater per day. This baseline was then evaluated against a range of other potential risk scenarios (sensitivity analysis) involving soils and groundwater. The following table provides a comparison of the scenarios using the remove and dispose costing information.

	FFS/ baseline 0-10' zone 10 <sup>-6</sup> risk	occasional land and groundwater use 0-10' zone 10 <sup>-4</sup> risk	frequent land and groundwater use 0-15' zone 10 <sup>-6</sup> risk	modified frequent: frequent land use with drinking water from a source other than groundwater 0-15' zone 10 <sup>-6</sup> risk	complete excavation: total removal of contamination 0-established concentration 10 <sup>-4</sup> risk
total excavated volume	4.5M cubic meters (m <sup>3</sup> )	3.1M m <sup>3</sup>	4.9M m <sup>3</sup>	2.6M m <sup>3</sup>	10.1M m <sup>3</sup>
total cost	\$1,241M (millions of dollars)	\$776M	\$1,314M	\$841M	\$2,135M

FFS/Baseline = (7) 8hr/yr exposure/groundwater (GW) @ MCL 2L/d/yr

Occasional use = (7) 8hr/yr exposure/GW MCL x 52 or <sup>365</sup>/7

Frequent use = 365d/yr/GW @ MCL 2L/d/yr

Modified Frequent use = 365 d/yr/ water source other than GW

Complete Excavation = 365 d/yr/GW @ MCL 2L/d/yr

The volume and costing information for each of the scenarios are timed for completion in the year

2018. The agencies are ultimately interested in achieving unrestricted use of the 100 Area which can be equated to the frequent use scenario. However, achieving this goal in the year 2018 would result in a "clean" zone encompassing islands of radioactive material represented by the reactor cores. The cores are currently scheduled for removal by 2055. Therefore, taking radioactive decay into account for adjacent waste sites becomes a valid technical evaluation.

Assuming that the removal date for the reactor cores remains constant, and reaching unrestricted use is the ultimate goal, then modifying the cleanup level to account for decay within the 100 Area operable units to coincide with the cleanup of the reactor cores is a viable solution. This would result in an occasional use scenario being accomplished by 2018 which would allow for release of those areas for recreational uses with restricted access of the reactor core areas until 2055. By 2055 the reactor cores would be removed and the soil under and adjacent to the cores would then be remediated to a level which would decay along with surrounding "modified occasional" areas to an unrestricted use of the total area by 2118. Cost information and specific cleanup goals would fall between the current occasional and frequent use scenarios. [Option B - decay until 2055...then release of everything @ residential]

The result of this scenario by managing time, resources, and budget is to arrive at an accessibility to the 100 Areas in two phases. The first would be an occasional use in excess of the 7 days per year at the year 2018, with reactor core removal on schedule and the ultimate goal of unrestricted use achieved within the horizon time frame described by the Hanford Future Site Uses Working Group.

#### Assumptions of concern:

- 1) Using a 10' excavation to achieve compliance with the established risk level.
- 2) What risk level is acceptable,  $10^{-4}$  or  $10^{-6}$
- 3) The costing information is uncertain and should be used for comparison only.

Distribution  
 Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units  
 January 19, 1995

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 of deletions or additions to the distribution list.